Annual

WATER QUALITY REPORT

Reporting Year 2013

Presented By

City of Buckeye

PWS ID#: 0407089

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2013. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water. For additional information please see our website at www.buckeyeaz.gov.

Community Participation

You are invited to participate in our public forums related to your drinking water. The City of Buckeye council meets two times per month on the first and third Tuesdays beginning at 6:00 p.m. at Town Hall, 530 E. Monroe Ave., Buckeye, AZ 85326. For more information on the exact meeting days, please see our website at www.buckeyeaz.gov/calendar.aspx or call the City Clerk's Office at (623) 349-6000.

Where Does My Water Come From?

Our water source is supplied by groundwater pumped from the West Salt River Valley and Hassayampa Sub-Basins. This water is treated, disinfected, and stored in reservoirs in various locations and elevations within the City of Buckeye's four service areas. Production facilities within these service areas operate 24 hours a day, 7 days a week. The Water Production Division continually monitors the treatment process, making any necessary adjustments for the changing water supply. The treated water then leaves the storage reservoirs and is distributed to the City's many customers through its extensive distribution systems within those areas. The Environmental Compliance Division performs over 1,000 tests per year in order to monitor the quality of the water that is sent to the customers within the City's service areas. Through this continuous process, the Water Resources Department ensures that all drinking water delivered is safe and in full regulatory compliance.

Substances That Could Be in Water

To ensure that tap water is safe to drink, Arizona Department of Environmental Quality prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: **Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife; **Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; **Pesticides and Herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; **Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems; **Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

More information about contaminants in tap water and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791 or visit online at www.epa.gov/safewater/hotline. Information on bottled water can be obtained from the U.S. Food and Drug Administration.

Fluoride

A concentration above 2 ppm is above the secondary standard level (MCL). This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 ppm of fluoride may develop cosmetic discoloration (called dental fluorosis) of their permanent teeth.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Questions?

For more information about this report, or for any questions relating to your drinking water, please contact Water Resources at (623) 349-6800 during the normal business hours of 7:00 a.m. to 6:00 p.m., Monday through Thursday.

What Is "Hard" Water?

Hard water is probably the most common water problem found in the home. According to the Water Quality Association of the United States, hard water is water that contains dissolved hardness minerals above 1 GPG (grains per gallon). Hardness in drinking water is caused by two nontoxic chemicals (called minerals), calcium and magnesium, that are dissolved in a water supply. If calcium and/or magnesium is present in your water in substantial amounts, the water is said to be hard. Making a lather or suds for washing is difficult to do. Water containing little calcium or magnesium is called soft water and makes it easier to make a lather or suds for washing. Parts per million (ppm) or grains per gallon (gpg) are both used to describe the dissolved hardness of minerals contained in water. One ppm is one unit of a substance out of one million units of water. Grains, or gpg, is a unit of weight. It is 1/7000 of a pound. One gpg (1gpg), is equal to 17.1 ppm.

The most common mechanical way to soften water is through the use of an ion exchange water softener. This device uses an ion exchange process to replace hardness minerals in the water with some other substance. The vast majority of water softening equipment today uses the exchange of hardness minerals for sodium.

Public water supplies in the City of Buckeye are all from underground sources and all pass through sand, gravel, and naturally occurring evaporated salt deposits which are typical in the arid environment of Arizona and help contribute in making the water in this area hard and salty in taste. Typically, water softeners should be set to at least 10 gpg and adjusted 3± (up or down) as needed. Iron levels found in our distribution system are typically below 0.050 mg/L and manganese is below 0.0050.

Hardness levels for your water system are:

	Town of Buckeye	Sundance/ Sunora	Tartesso	Festival Ranch
	ppm/gpg	ppm/gpg	ppm/gpg	ppm/gpg
Hardness	168/10	72/4	57/3	86/5
Iron	0.050	0.050	0.050	0.050
Manganese	0.0050	0.0050	0.0050	0.0050

Soft water – less than 1 gpg
Slightly hard water – 1 to 3.5 gpg
Moderately hard water – 3.5 to 7 gpg
Hard water – 7 to 10.5 gpg
Very hard water – 10.5 and higher gpg

Source Water Assessment

The Source Water Assessment Program (SWAP) is part of a nationwide effort initiated in 1996 by amendments to the Safe Drinking Water Act (SDWA). The intent of the program is to complete an evaluation of all sources of water (wells, surface water intakes, and springs) that provide drinking water to public water systems in Arizona. This evaluation determines the degree to which the source of water is protected. Arizona's SWAP was approved by the U.S. EPA in November 1999. The goal of the SWAP is to promote community awareness and to facilitate and encourage source water protection at the community level. These sources are currently protected by well contraction and system operations and management.

SWAP provides detailed information on public water system drinking water sources by evaluating the hydrogeologic setting in which the source is located and any adjacent land uses that are in a specified proximity of the drinking water source. Once this information is gathered, it is evaluated to determine the extent to which the drinking water sources are protected from future natural or man-made contamination. Water sources are then categorized as either high risk or low risk. A designation of high risk indicates there are additional source water protection measures that can be implemented at the local level. A low risk designation indicates that most source water protection measures are either already implemented and/or the hydrogeologic setting is such that it is protective of the source water.

All public water systems are required to comply with the federal and state laws for monitoring and reporting to ensure the water they serve to the public meets national drinking water standards. Regardless of the risk rating, ADEQ encourages local communities to actively engage in source water protection activities. If you have any questions regarding the Source Water Assessments, please contact ADEQ at (602) 771-4644 or visit ADEQ's Source Water Assessment and Protection Unit website at www.azdeq.gov/environ/water/dw/swap.html or the EPA's website at www.epa.gov.

For water systems Tartesso 0407526 and Festival Ranch 0407765

Based on the information currently available on the hydrogeologic settings and the adjacent land uses that are in the specified proximity of the drinking water sources of the public water system, the Arizona Department of Environmental Quality (ADEQ) has not performed a Source Water Assessment (SWA) for water systems Tartesso 0407526 and Festival Ranch 0407765. Once an assessment is completed by ADEQ, we will include a summary of the report in our Water Quality Report.

For water system Town of Buckeye 0407089: SWA conducted in November 2002

Based on the information currently available on the hydrogeologic settings and the adjacent land uses that are in the specified proximity of the drinking water source(s) of the public water system, the Arizona Department of Environmental Quality (ADEQ) has given a high risk designation for the degree to which this public water system drinking water source is protected. A designation of high risk indicates there may be additional source water protection measures that can be implemented on the local level. This does not imply that the source water is contaminated nor does it mean that contamination is imminent. Rather, it simply states that land use activities or hydrogeologic conditions exist that make the source water susceptible to possible future contamination.

For water system Sundance/Sunora 0407154: SWA conducted in May 2003

Based on the information currently available on the hydrogeologic settings and the adjacent land uses that are in the specified proximity of the drinking water source of the public water system, the department has given a low risk designation for the degree to which this public water system drinking water source is protected. A low risk designation indicates that most source water drinking water protection measures are either already implemented, or the hydrogeology is such that the source water protection measures will have little impact on protection.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Regulation (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Any UCMR3 detections are shown in the data tables in this report. Contact us for more information on this program.

REGULATED SUBSTANCES

				Town of Buckeye 0407089		Sundance/Sunora 0407154		Tartesso 0407526		Festival Ranch 0407765			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2009	15	0	2.5	1.7–3.3	NA	NA	3.7	NA	NA	NA	No	Erosion of natural deposits
Arsenic (ppb)	2009	10	0	4.6	NA	5.635[1,2]	3.1–7.87[1,2]	9.7	NA	9.4[1,3]	NA[1,3]	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2009	2	2	0.24	NA	0.140[3]	0.0112–0.140[3]	0.091	NA	0.083[3]	NA[3]	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2013	[4]	[4]	1.00	0.10–1.52	1.09	ND–2.02	1.04	0.25–2.02	0.93	0.28–1.79	No	Water additive used to control microbes
Chromium (ppb)	2009	100	100	22	NA	32[3]	24.4–32[3]	11	NA	9.1[3]	NA[3]	No	Discharge from steel and pulp mills; Erosion of natural deposits
Di(2-ethylhexyl) Phthalate (ppb)	2012	6	0	NA	NA	NA	NA	NA	NA	2.6	0.9–2.6	No	Discharge from rubber and chemical factories
Fluoride (ppm)	2009	4	4	0.89	NA	1.64[3]	1.61–1.64[3]	3.1	NA	1.1[3]	NA[3]	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 1 (ppb)	2013	60	NA	1.3	NA	1.567	ND–2	2.2	NA	2.2	NA	No	By-product of drinking water disinfection
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2013	60	NA	NA	NA	1.498	ND–2.68	NA	NA	NA	NA	No	By-product of drinking water disinfection
Nitrate[4] (ppm)	2013	10	10	9.6	4.6–9.6	4.1	2.7–4.1	1.4	NA	3.2	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	2009	50	50	11	NA	2.06[3]	NA[3]	NA	NA	NA	NA	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [Total Trihalomethanes]–Stage 1 (ppb)	2013	80	NA	8.4	NA	8.1	3.1–13	11	NA	7.7	NA	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2013	80	NA	NA	NA	3.45	2.14–5.69	NA	NA	NA	NA	No	By-product of drinking water disinfection
Xylenes (ppm)	2011	10	10	NA	NA	0.00189	NA	NA	NA	NA	NA	No	Discharge from petroleum factories; Discharge from chemical factories

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

				Town of Buckeye 0407089		Sundance/Sunora 0407154		Tartesso 0407526		Festival Ranch 0407765			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2012	1.3	1.3	0.048	1/20	0.0697	0/30	0.0143	0/10	0.053[3]	0/10[3]	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2012	15	0	1.1	1/20	ND	0/30	6.1	0/10	4.52[3]	0/10[3]	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES

		Sundance/Sunora 0407154		Tartesso 0407526		Festival Ranch 0407765	
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH
Aroclor 1016 (ppm)	2011	0.000091	NA	NA	NA	NA	NA
Sodium (ppm)	2011	NA	NA	87	NA	45	NA

UNREGULATED CONTAMINANT MONITORING REGULATION (UCMR3) - SUNDANCE/SUNORA 0407154

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Chromium (ppb)	2013	30	19–30
Chromium-6 Dissolved (ppb)	2013	30	26–30
Molybdenum (ppb)	2013	8.8	6.6–8.8
Strontium (ppb)	2013	2,100	210–2,100
Vanadium (ppb)	2013	31	20–31

[1] While the drinking water from this water system meets the U.S. EPA's standard for arsenic, it does contain low levels of arsenic. The EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

[2] Sampled in 2013.

[3] Sampled in 2011.

[4] Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

Definitions

AL (Action level): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a community water system shall follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).